

8 Summary

EPIDEMIOLOGICAL STUDIES ON EQUINE BDV-INFECTION, THE BORNA DISEASE IN HORSES, THE THERAPY AND THE APPROPRIATE CURRENT LEGISLATION IN GERMANY

The aim of the present study was to pursue the epidemiologic situation of Borna disease virus (BDV)-infection in healthy horses, but also BDV-infection in classically as well as atypically diseased horses by means of the attached data sheet information and using modern laboratory assays, here especially a newly developed ELISA-technique. Furthermore, this study presents a broad picture of the spreading of BDV-infections in Germany.

The presented ELISA based–antigen, antibody and immune complex investigations show the localisation of Borna disease all over Germany as well as the same situation for BDV-infections. The prevalence of BDV-infection is widely found, here prominently shown, more than ever before. 50 % of the infected horses illustrate either typical or atypical symptoms.

In contrast to studies performed by other groups till now we did not look only for BDV-specific antibodies in plasma/sera or in cerebrospinal fluid, but could give a complete survey on the BDV-infection load in diseased and healthy horses, as based on the ELISA-technique developed by the Berlin BDV-working group (RKI and FU Berlin). These investigations cover BDV-specific antigens and antigens bound to humoral immune response products (CIC). Looking exclusively at the antibody-titres which is an incomplete view on the infection events, one finds a relative prevalence of only 18,6 %. The propagated triple ELISA has to be recommended. It distinguishes BDV-antigen, –immune complexes and –antibodies and therefore provides a more accurate insight into the situation of BDV-infection of the patient. This minimal invasive method allows the detection of BDV-infection with or without virus activation. At least one further blood check should be performed to better evaluate the development of the infectious process.

The endemic borders of BD get blurred more and more and can hardly be located to former classical endemic regions. Classically and atypically BDV-diseased horses with provable, specific BDV-titres can be found in almost every federal state of Germany, although Saxony-Anhalt was represented only with 10 samples. More than 10 % of the highly BDV-positive infected sick horses were found in each of the federal states of Baden-Württemberg, Rhineland-Palatinate, Hamburg, Bavaria and Hesse, with a relative frequency.

BDV-infection was detected in most of the different breeds with or without sickness. An increased prevalence of the sickness and also the infection was found more often in sports horses than in ponies and heavy horses.

A seasonal rhythm of infection and sickness could be demonstrated. An increasing number of sick infected horses could be seen in the warm period of the year, especially in May and August.

The modern legislation, especially focussing on the duty of announcement, is without doubt of great concern for the population. The contents of the present legislation is not seen to be scientifically up to date and cannot be looked at to be correct, even seems to be outdated. The BDV-infection rate in horses in Germany extends 52 % of this animal population. This does not allow the classification for BDV-infection to be placed under notifiable diseases, because the criteria of an animal epizootic in the sense of legislation are not fulfilled. A correction of legislation in this point still remains open.

Differently from legislation, where a therapy is denied an impressive therapeutic efficacy could be observed in BDV-infections accompanied with disease. In more than 78 % of the treated horses a clinical improvement could be recorded. Such a most promising therapy in BDV-diseased horses could be achieved with the drug amantadine, a substance to be regarded without alternative in this virus induced infection.